

## **Bs En 13914 1 2005 Design Preparation And Application Of**

***Ideal for students on all construction courses Topics presented concisely in plain language and with clear drawings Updated to include revisions to Building and Construction regulations The Building Construction Handbook is THE authoritative reference for all construction students and professionals. Its detailed drawings clearly illustrate the construction of building elements, and have been an invaluable guide for builders since 1988. The principles and processes of construction are explained with the concepts of design included where appropriate. Extensive coverage of building construction practice, techniques, and regulations representing both traditional procedures and modern developments are included to provide the most comprehensive and easy to understand guide to building construction. This new edition has been updated to reflect recent changes to the building regulations, as well as new material on the latest technologies used in domestic construction. Building Construction Handbook is the essential, easy-to-use resource for undergraduate and vocational students on a wide range of courses including NVQ and BTEC National, through to Higher National Certificate and Diploma, to Foundation and three-year Degree level. It is also a useful practical reference for building designers, contractors and others engaged in the construction industry.***

***Construction Technology 1: House Construction offers a highly accessible introduction to the key stages of domestic house construction from planning to internal finishes. Its student-friendly layout uses detailed figures, photos and case studies from real-life building sites to aid a practical understanding of construction techniques, providing clear step-by-step guidance in learning the basic principles of low-rise residential construction. This textbook is a vital resource for students in construction, property and architecture, BSc and MSc, including any student taking courses in building surveying, quantity surveying, real estate and construction management, as well as those studying at the HNC/HND level. New to this Edition: - The sections on off-site manufacture and modular approaches to construction have been significantly updated and expanded. The nature of house construction utilising panelised and volumetric approaches is explained with supporting case study examples and photographic illustrations. - The increased recognition of sustainability as a key element in modern house building is reflected in expanded consideration of the environmental implications of construction design and practice. - The characteristics of house form, construction and technology that impact upon thermal and environmental performance are included together with***

***updated content relating to SAP calculations and target energy performance. - Advances in technology and evolving approaches to passive features of environmentally-conscious design are incorporated together with the introduction of issues around connected homes. - The material has been amended in line with current UK building regulations, environmental guidance and legislation including statutory control of the building process and health and safety.***

***This book focuses on spearheading the integration of maintainability and green facility management right from the design stage. The text introduces the concept of green maintainability, and discusses considerations to maximize the performance by achieving resource and energy efficiency, while minimizing the total life cycle cost in embodied energy; environmental impact and consumption of matter/energy throughout the life cycle of a facility, by "doing it right the first time". In this edition, existing chapters have been brought up to date, to include contemporary sustainability concerns, such as: sustainability design, construction and materials, and maintainability of green features.***

***Maintainability of Facilities is written for practitioners and students in architecture, engineering, building, real estate, construction, project management, facilities management, quantity and building surveying.***

***Supported Catalysts and Their Applications***

***Annual Index***

***Grain World***

***Planning and Design Data***

***Science, Processing, and Design***

***Trichoderma: Agricultural Applications and Beyond***

The conversion of lignocellulosic biomass into renewable fuels and other commodities has provided an appealing alternative towards supplanting global dependence on fossil fuels. The suitability of multitudes of plants for deconstruction to useful precursor molecules and products is currently being evaluated. These studies have probed a variety of phenotypic traits, including cellulose, non-cellulosic polysaccharide, lignin, and lignin monomer composition, glucose and xylose production following enzymatic hydrolysis, and an assessment of lignin-carbohydrate and lignin-lignin linkages, to name a few. These quintessential traits can provide an assessment of biomass recalcitrance, enabling researchers to devise appropriate deconstruction strategies. Plants with high polysaccharide and lower lignin contents have been shown to breakdown to monomeric sugars more readily. Not all plants contain ideal proportions of the various cell wall constituents, however. The capabilities of biotechnology can alleviate this conundrum by tailoring the chemical composition of plants to be more favorable for conversion to sugars, fuels, etc. Increases in the total biomass yield, cellulose content, or conversion efficiency through, for example, a reduction in lignin content, are pathways being evaluated to genetically improve plants for use in manufacturing biofuels and bio-based chemicals. Although plants have been previously domesticated for food and fiber production, the collection of phenotypic traits prerequisite

for biofuel production may necessitate new genetic breeding schemes. Given the plethora of potential plants available for exploration, rapid analytical methods are needed to more efficiently screen through the bulk of samples to hone in on which feedstocks contain the desired chemistry for subsequent conversion to valuable, renewable commodities. The standard methods for analyzing biomass and related intermediates and finished products are laborious, potentially toxic, and/or destructive. They may also necessitate a complex data analysis, significantly increasing the experimental time and add unwanted delays in process monitoring, where delays can incur in significant costs. Advances in thermochemical and spectroscopic techniques have enabled the screening of thousands of plants for different phenotypes, such as cell-wall cellulose, non-cellulosic polysaccharide, and lignin composition, lignin monomer composition, or monomeric sugar release. Some instrumental methods have been coupled with multivariate analysis, providing elegant chemometric predictive models enabling the accelerated identification of potential feedstocks. In addition to the use of high-throughput analytical methods for the characterization of feedstocks based on phenotypic metrics, rapid instrumental techniques have been developed for the real-time monitoring of diverse processes, such as the efficacy of a specific pretreatment strategy, or the formation of end products, such as biofuels and biomaterials. Real-time process monitoring techniques are needed for all stages of the feedstocks-to-biofuels conversion process in order to maximize efficiency and lower costs by monitoring and optimizing performance. These approaches allow researchers to adjust experimental conditions during, rather than at the conclusion, of a process, thereby decreasing overhead expenses. This Frontiers Research Topic explores options for the modification of biomass composition and the conversion of these feedstocks into to biofuels or biomaterials and the related innovations in methods for the analysis of the composition of plant biomass, and advances in assessing up- and downstream processes in real-time. Finally, a review of the computational models available for techno-economic modeling and lifecycle analysis will be presented.

This classic reference has established the value of petrography as a powerful method for the investigation of concrete as a material. It provides an authoritative and well-illustrated review of concrete composition and textures, including the causes of defects, deterioration, and failure that can be identified using a petrological microscope. This new edition is entirely revised and updated and also greatly extended to take account of new scientific developments and significant improvements in instrumentation and to reflect current laboratory working practices, as well as to reflect new understanding of the performance of concrete and related materials. Now in full color throughout, Concrete Petrography, Second Edition provides case study examples, with appropriate explanatory discussions and practical advice on selecting, handling and preparing specimens. It assists and guides the engineer, the trainee and the experienced petrographer in understanding the scientific evidence that is basic to petrographic analysis and so will lead to more accurate and timely diagnosis and treatment of problems in structural concrete. This book includes: Contributions in specialist areas by internationally recognized experts Explanation of computer techniques as an aid to petrography Full coverage of inspection, sampling, and specimen preparation New sections covering recent technological development of equipment Guidance on observation of cement and concrete mineralogy and microfabrics Discussion and illustrative examples of deterioration and failure mechanisms New work and guidance on the determination of water/cement ratio New color illustrations and micrographs throughout Thorough updating of standards, other authoritative publications, and references A fully revised, extended, and updated glossary of optical and other properties

Cubes, triangular prisms, nano-acorn, nano-centipedes, nanoshells, nano-whiskers. . . . Now that we can create nanoparticles in a wide variety of shapes and morphologies, comes the next challenge: finding ways to organize this collection of particles into larger and more complex systems. Nanoparticle Assemblies and Superstructures, edited by pioneer of nanoparticle self-organization Nicholas A. Kotov,

employs three critical questions to provide a framework of open-ended inquiry: What are the methods of organization of nanocolloids in more complex structures? What kind of structures do we need? What are the new properties appearing in nanocolloid superstructures? Pulling together a collection of contributors unmatched in both their expertise and enthusiasm, Kotov presents what he refers to as a snapshot of nanoassembly work in progress. The first section of this comprehensive volume provides background through an assessment of the current status of nanoparticle assembly development and the requirements for different applications of organized nanomaterials. The middle chapters explore the changes that occur in various properties of individual particles when they are brought together to form agglomerates and simple assemblies. In the final section, a number of top scientists describe various methods for organizing particles in complex nanostructured superstructures. These include techniques involving biological ligands and force fields, as well as methods based on self-organization. This remarkably prescient text upholds Kotov's belief that the research on organization of nanoparticles and other nanostructures, will most certainly uncover a wealth of "interesting discoveries and surprising phenomena." Nicholas A. Kotov has received several state, national, and international awards for his research on nanomaterials, including the Mendeleev Stipend, the Humboldt Fellowship, and the CAREER award.

Architect's Legal Pocket Book

Construction Materials Reference Book

Green FM for Building Professionals Second Edition

Biomass Modification, Characterization and Process Monitoring Analytics to Support Biofuel and Biomaterial Production

Bulletin of the United States Bureau of Labor Statistics

Metric Handbook

This book is at the cutting edge of the ongoing research in bioeconomy and encompasses both technological and economic strategies to master the transformation towards a knowledge- and bio-based production system. The volume combines different international perspectives with approaches of the various fields of research. Bioeconomy is one of the future concepts of an economy which, while based on renewable biological resources, also predicts economic growth. Starting from a growth-economic as well as knowledge- and innovation-economic perspective the contributions give an overview of different existing patterns and cases and describe the basic prerequisites for the bioeconomy transformation. Therewith, the volume is a resource for experts and newcomers in the field of bioeconomy giving insight into the life cycle of bio-based products, detailing the latest advancements and how to turn them into economic growth.

The need to improve both the efficiency and environmental acceptability of industrial processes is driving the development of heterogeneous catalysts across the chemical industry, including commodity, specialty and fine chemicals and in pharmaceuticals and agrochemicals. Drawing on international research, Supported Catalysts and their Applications discusses aspects of the design, synthesis and application of solid supported reagents

and catalysts, including supported reagents for multi-step organic synthesis; selectivity in oxidation catalysis; mesoporous molecular sieve catalysts; and the use of Zeolite Beta in organic reactions. In addition, the two discrete areas of heterogeneous catalysis (inorganic oxide materials and polymer-based catalysts) that were developing in parallel are now shown to be converging, which will be of great benefit to the whole field. Providing a snapshot of the state-of-the-art in this fast-moving field, this book will be welcomed by industrialists and researchers, particularly in the agrochemicals and pharmaceuticals industries.

World Development Indicators 2016 provides a compilation of relevant, high-quality, and internationally comparable statistics about global development and the fight against poverty. It is intended to help policymakers, students, analysts, professors, program managers, and citizens find and use data related to all aspects of development, including those that help monitor progress toward the World Bank Group's two goals of ending poverty and promoting shared prosperity. Six themes are used to organize indicators—world view, people, environment, economy, states and markets, and global links. WDI 2016 includes:

- A selection of the most popular indicators across 214 economies and 14 country groups organized into six WDI themes
- A new section on the Sustainable Development Goals (SDGs) has replaced the one on Millennium Development Goals (MDGs).
- The SDG section covers all 17 goals, and important targets to achieve these goals. Each goal has been presented in a maximum 2-page spread with selected indicators to explain the targets.
- Each of the remaining sections includes an introduction, a map, a table of the most relevant and popular indicators for that theme together with a discussion of indicator compilation methodology.
- A user guide describing resources available online and on mobile apps. Download the WDI DataFinder Mobile App and other Data Apps at [data.worldbank.org/apps](http://data.worldbank.org/apps). WDI DataFinder is a mobile app for browsing the current WDI database on smartphones and tablets, using iOS and Android, available in four languages: English, French, Spanish, and Chinese. Use the app to:

- Browse data using the structure of the WDI
- Visually compare countries and indicators
- Create, edit, and save customized tables, charts, and maps
- Share what you create on Twitter, Facebook, and via email

A Colour Guide

Knowledge-Driven Developments in the Bioeconomy

Cell and Molecular Biology

Concrete Petrography

Construction Technology 1: House Construction

## Daily Series, Synoptic Weather Maps

Concrete Petrography A Handbook of Investigative Techniques, Second Edition CRC Press

A guide containing illustrations of damage, surveys, drying and decontamination, and repair work to buildings following flooding. Appendices include guidance to homeowners, technical information, and key organisations that can advise on flooding and information on the provision of insurance.

This new edition of the popular handbook is a practical companion for Clerks of Works, Site Inspectors and anyone with the responsibility of managing construction works on site. Clerk of Works and Site Inspector Handbook, 2018 edition the book explains the traditional site inspector/clerk of works role and their liabilities, as well as duties and responsibilities linked to a more contemporary construction setting. It explores the relationship between inspectors, architects and other construction professionals, whilst providing valuable insight into reporting and what to look for, check and test every step of the way. It's an essential reference book for Clerks of Works and Site Inspectors, containing important lessons for newly qualified architects, those who carry out site inspections or act as resident site architects and Part 3 students.

The Importance Of Iron In Pathophysiologic Conditions

St. Louis Daily Market Reporter and Merchants Exchange Price Current

The Environmental Design Pocketbook

From Early Agriculture to Angkor

A Handbook of Investigative Techniques, Second Edition

Environmental Health Perspectives

Neurobiology of Brain Disorders: Biological Basis of Neurological and Psychiatric Disorders, Second Edition provides basic scientists a comprehensive overview of neurological and neuropsychiatric disease. This book links basic, translational, and clinical research, covering the genetic, developmental, molecular and cellular mechanisms underlying all major categories of brain disorders. It offers students, postdoctoral fellows, and researchers in diverse fields of neuroscience, neurobiology, neurology, and psychiatry the tools they need to obtain a basic background in the major neurological and psychiatric diseases. Topics include developmental, autoimmune, central, and peripheral neurodegeneration, infectious diseases, and diseases of higher function. Organized by individual disorder, each chapter includes coverage of the clinical condition, diagnosis, treatment, underlying mechanisms, relevant basic and translational research, and key unanswered questions. This volume reflects progress in the field since publication of the first edition, with fully updated chapters, and new chapters on isolation, aging, global diseases, vascular diseases, and toxic/metabolic disease. New disorder coverage includes fibromyalgia, chronic fatigue, Restless Legs Syndrome, myasthenia gravis, and more. Links basic, translational and clinical research on disorders of the nervous system Covers a vast array of neurological and psychiatric disorders, including Down syndrome, autism, muscular dystrophy, diabetes, TBI, Parkinson's, Huntington's, Alzheimer's, OCD, PTSD, schizophrenia, depression and pain Features new chapters on the effects of aging and isolation on brain health Expands coverage on disorders, including new chapters on fibromyalgia, chronic fatigue, and restless legs syndrome Features in-text summary points, special feature boxes and research questions

Solvents are used in nearly all industries, from cosmetics to semiconductors, and from biotechnology research to iron and steel production. This book is a comprehensive and extensive textual analysis of the principles of solvent selection and use. It is a balanced presentation of solvent performance, processing characteristics, and environment and health issues. The book is intended to help formulators select ideal solvents, safety coordinators to protect workers, legislators and inspectors to define and implement technically correct public safeguards on solvent use, handling, and disposal. The third edition contains the most recent findings and trends in the solvent application. This volume, together with Vol. 2: Use, Health & Environment, Databook of Green Solvents, and Databook of Solvents, contains the most comprehensive, and up to date information ever published on solvents. Each chapter in this volume is focused on a specific aspect of solvent properties which determine its selection, such as effect on properties of solutes and solutions, properties of different groups of solvents and the summary of their applications' effect on health and environment (given in tabulated form), swelling of solids in solvents, solvent diffusion and drying processes, nature of interaction of solvent and solute in solutions, acid-base interactions, effect of solvents on spectral and other electronic properties of solutions, effect of solvents on rheology of solution, aggregation of solutes, permeability, molecular structure, crystallinity, configuration, and conformation of dissolved high molecular weight compounds, methods of application of solvent mixtures to enhance the range of their applicability, and effect of solvents on chemical reactions and reactivity of dissolved substances. Provides key insights that will help engineers and scientists select the best solvent for the job Includes practical information and ideas on how to improve existing processes involving solvents Brings together a selection of authors who are specialists in their areas Presents the latest advances in solvent technology and their applications With this handbook, the distinguished team of editors has combined the expertise of leading nanomaterials scientists to provide the latest overview of this field. They cover the whole spectrum of nanomaterials, ranging from theory, synthesis, properties, characterization to application, including such new developments as quantum dots, nanoparticles, nanoporous materials, nanowires, nanotubes, and nanostructured polymers. The result is recommended reading for everybody working in nanoscience: Newcomers to the field can acquaint themselves with this exciting subject, while specialists will find answers to all their questions as well as helpful suggestions for further research.

Materials for Architects and Builders

Recent Developments and New Directions

Volume 1: Properties

Technological and Economic Perspectives

Building Maintenance

Maintainability of Facilities

*This expansive volume presents the essential topics related to construction materials composition and their practical application in structures and civil installations. The book's diverse slate of expert authors assemble invaluable case*

*examples and performance data on the most important groups of materials used in construction, highlighting aspects such as nomenclature, the properties, the manufacturing processes, the selection criteria, the products/applications, the life cycle and recyclability, and the normalization. Civil Engineering Materials: Science, Processing, and Design is ideal for practicing architects; civil, construction, and structural engineers, and serves as a comprehensive reference for students of these disciplines. This book also:*

- Provides a substantial and detailed overview of traditional materials used in structures and civil infrastructure*
- Discusses properties of natural and synthetic materials in construction and materials' manufacturing processes*
- Addresses topics important to professionals working with structural materials, such as corrosion, nanomaterials, materials life cycle, not often covered outside of journal literature*
- Diverse author team presents expert perspective from civil engineering, construction, and architecture*
- Features a detailed glossary of terms and over 400 illustrations*

*This book gives a comprehensive overview on the various aspects of Trichoderma, a filamentous fungus ubiquitously present in soil. Topics addressed are the biology, diversity, taxonomy, ecology, biotechnology and cultivation of Trichoderma, to just name a few. Basic as well as applied aspects are covered and a special focus is given on use of Trichoderma in agriculture and beyond. Trichoderma species are widely distributed throughout the world in soil, rotting plant material, and wood. Although they are often considered as a contaminants, Trichoderma species are also known for their ability to act as biocontrol agents against various plant pathogens and plant diseases, and also as biostimulants promoting plant growth. The contents of this book will be of particular interest to, agricultural scientists, biotechnologists, plant pathologists, mycologists, and microbiologists, students, extension workers, policy makers and other stakeholders.*

*The first comprehensive guide to the petrography of geomaterials, making the petrographers specialist knowledge available to practitioners, educators and students worldwide interested in modern and historic construction materials.*

*Building Construction Handbook*

*Clerk of Works and Site Inspector Handbook*

*Emulsions*

*Handbook of Solvents, Volume 1*

*Neurobiology of Brain Disorders*

*Standards for the Repair of Buildings Following Flooding*

**Materials for Architects and Builders provides a clear and concise introduction to the broad range of materials used within the construction industry and covers the essential details of their manufacture,**

**key physical properties, specification and uses. Understanding the basics of materials is a crucial part of undergraduate and diploma construction or architecture-related courses, and this established textbook helps the reader to do just that with the help of colour photographs and clear diagrams throughout. This new edition has been completely revised and updated to include the latest developments in materials research, new images, appropriate technologies and relevant legislation. The ecological effects of building construction and lifetime use remain an important focus, and this new edition includes a wide range of energy saving building components.**

**Significantly updated in reference to the latest construction standards and new building types Sustainable design integrated into chapters throughout Over half of the entire book has now been updated since 2015 Over 100,000 copies sold to successive generations of architects and designers This book belongs in every design office. The Metric Handbook is the major handbook of planning and design data for architects and architecture students. Covering basic design data for all the major building types it is the ideal starting point for any project. For each building type, the book gives the basic design requirements and all the principal dimensional data, and succinct guidance on how to use the information and what regulations the designer needs to be aware of. As well as buildings, the Metric Handbook deals with broader aspects of design such as materials, acoustics and lighting, and general design data on human dimensions and space requirements. The Metric Handbook is the unique reference for solving everyday planning problems.**

**Emulsions, the third volume of the Nanotechnology in the Food Industry series, is an invaluable resource for anyone in the food industry who needs the most recent information about scientific advances in nanotechnology on this topic. This volume focuses on basic and advanced knowledge about nanoemulsion, and presents an overview of the production methods, materials (solvents, emulsifiers, and functional ingredients), and current analytical techniques that can be used for the identification and characterization of nanoemulsions. The book also discusses the applications of nanoemulsion with special emphasis on systems suitable for utilization within the food industry. This book is useful to a wide audience of food science research professionals and students who are doing research in this field, as well as others interested in recent nanotechnological progress worldwide. Presents fundamentals of nanoemulsions, methods of preparation (high-energy and low-energy techniques), and applications in the food industry Includes research studies of nanoemulsification technology to improve bioavailability of food ingredients and research analysis Offers benefits and methods of risk assessment to ensure food safety Presents cutting-edge encapsulating systems to**

**improve the quality of functional compounds Provides a variety of methods, such as high-shear stirring, high-pressure homogenizers, self-emulsification, phase transitions and phase-inversion, to further research in this field**

**Nanoparticle Assemblies and Superstructures**

**A Comprehensive Guide to Practice**

**Geomaterials Under the Microscope**

**Northern Hemisphere data tabulations**

**pt. 1. United States summary**

**The American Contractor**

*This textbook provides a comprehensive and state-of-the-art overview of the major issues specific to the field of pediatric gastroenterology, hepatology, and nutrition. The first part of the book, Gastroenterology and Nutrition, presents in a systematic way the overall scope of issues encountered by children (newborn to teenagers) suffering from disorders of the gastrointestinal tract, pancreas and/or presenting nutritional issues. These chapters are structured in logical sections to facilitate consultation and include major topics ranging from congenital disorders to gastrointestinal problems of the newborn, infectious diseases of the gastrointestinal tract, and approach to nutritional problems in the various pediatric ages. The second part of the book, Hepatology, is articulated in a series of chapters which present a comprehensive review of congenital and acquired disorders of the biliary tract and liver. This section also includes a critical analysis of available diagnostic and therapeutic procedures and future perspectives. Written by experts in the field, Textbook of Pediatric Gastroenterology, Hepatology and Nutrition: A Comprehensive Guide to Practice constitutes a much needed, innovative resource combining updated, reliable and comprehensive information with agile consultation for a streamlined approach to the care of children with such disorders.*

*The Environmental Design Pocketbook 2nd ed places the information you need for sustainable, low energy building design at your fingertips. Packed with diagrams, tools and tips, it cuts through the complex mass of technical data and legislation that faces the designer, and distils all the key guidance into a single reference that is quick, easy to use and points to the facts, figures and performance data that are most important. This 2nd edition is now fully up-to-date with the latest Building Regulations Part L and F legislation (England and Wales), RIBA Plan of Work 2013, new information on the Green Deal and Zero Carbon and contains revised references and further reading sections throughout. Whether used in the classroom, office or on-site, the book guides the designer through the entire process; from the fundamentals to the building details. From future-proofing for a changing climate to rainwater harvesting, retrofit, and zero-carbon technologies - the Pocketbook has got it covered.*

*The molecular deprivation of oxygen is manifested by hypoxia, a deficiency of oxygen and anoxia, or the absence of oxygen supply to the tissues. This book entitled Hypoxia and Anoxia will cover a broad range of understanding on hypoxia and anoxia from molecular mechanisms to pathophysiology. Hypoxia and anoxia stimulate multiple systems through specific cell signal transduction pathways and regulate several transcriptional factors like HIF-1, REST to encode genes for VEGF, Epo, etc. This book will also highlight different types of hypoxia and anoxia along with their impact on apoptosis, cardiovascular pathophysiology, and glucose regulatory mechanisms. This book will be a ready reckoner to give*

*a deep understanding of the oxygen-sensing environment in vivo for researchers, academicians, and clinicians throughout the world.*

*Hypoxia and Anoxia*

*2018 Edition*

*Fundamental Building Technology*

*Megadrought and Collapse*

*Nanomaterials Chemistry*

*Textbook of Pediatric Gastroenterology, Hepatology and Nutrition*

*A little book that's big on information, the Architect's Legal Pocket Book is the definitive reference on legal issues for architects and architectural students. This handy pocket guide covers key legal principles which will help you to quickly understand the law and where to go for further information. Now in a fully updated new edition, this bestselling book covers a wide range of subjects focused on the UK including building legislation, negligence, liability, planning policy and development, listed buildings, party wall legislation, and rights of light. This edition also contains greater coverage of contracts including the RIBA contracts, dispute resolution and legal issues in professional practice. Illustrated with clear diagrams and featuring key cases, this is an invaluable source of practical information and a comprehensive guide of the current law for architects. It is a book no architect should be without.*

*Megadrought and Collapse is the first book to treat in one volume the current paleoclimatic and archaeological evidence of megadrought events coincident with major historical examples of societal collapse. Previous works have offered multi-causal explanations for climate change, from overpopulation, overexploitation of resources, and warfare to poor leadership and failure to adapt to environmental changes. In earlier synthetic studies of major instances of collapse, the archaeological record has often not been considered. Included in this volume are nine case studies that span the globe and stretch over fourteen thousand years, from the paleolithic hunter-gatherer collapse of the 12th millennium BC to the 15th century AD fall of the Khmer capital at Angkor. Together, the studies constitute a primary sourcebook in which principal investigators in archaeology and paleoclimatology present their original research. Each case study juxtaposes the latest paleoclimatic evidence of a megadrought (so-called for its severity and its decades to centuries-long duration) with available archaeological records of synchronous societal collapse. The megadrought data are derived from all five archival paleoclimate proxy sources: lake, marine, and glacial cores, speleothems (cave stalagmites), and tree rings. The archaeological records in each case are the most recently retrieved. The editor derives two arguments from the discussions in the volume: (1) Societal collapse would not have occurred without megadrought. Attendant social disruptions may have been present in some instances. Nonetheless, megadrought rendered agriculture-based societies unsustainable in different regions, periods, and levels of social complexity, from simple foraging to vast empires. (2) A set of adaptive responses can be observed across the nine cases: adaptive collapse in the face of insurmountable megadrought, region-wide and settlement abandonment, and habitat tracking to sustainable agricultural environments. The evidence points to a paradigm shift: the insertion of another major force, natural climate variability-megadrought-into the global historical record.*

*The iron element (Fe) is strictly required for the survival of most forms of life, including bacteria, plants and humans. Fine-tuned regulatory mechanisms for Fe absorption, mobilization and recycling operate to maintain Fe homeostasis, the disruption of which leads*

*to Fe overload or Fe depletion. Whereas the deleterious effect of Fe deficiency relies on reduced oxygen transport and diminished activity of Fe-dependent enzymes, the cytotoxicity induced by Fe overload is due to the ability of this metal to act as a pro-oxidant and catalyze the formation of highly reactive hydroxyl radicals via the Fenton chemistry. This results in unfettered oxidative stress generation that, by inducing protein, lipid and DNA oxidation, leads to Fe-mediated programmed cell death and organ dysfunction. Major and systemic Fe overloads occurring in hemochromatosis and Fe-loading anemias have been extensively studied. However, localized tissue Fe overload was recently associated to a variety of pathologies, such as infection, inflammation, cancer, cardiovascular and neurodegenerative disorders. In keeping with the existence of cross-regulatory interactions between Fe homeostasis and the pathophysiology of these diseases, further investigations on the mechanisms that provide cellular and systemic adaptation to tissue Fe overload are instrumental for future therapeutic approaches. Thus, we encourage our colleagues to submit original research papers, reviews, perspectives, methods and technology reports to contribute their findings to a current state of the art on a comprehensive overview of the importance of iron metabolism in pathophysiologic conditions.*

*Biological Basis of Neurological and Psychiatric Disorders*

*World Development Indicators 2016*

*Standard & Poor's Ratings Handbook*

*Materials for Construction and Civil Engineering*

This book is the definitive reference source for professionals involved in the conception, design and specification stages of a construction project. The theory and practical aspects of each material is covered, with an emphasis being placed on properties and appropriate use, enabling broader, deeper understanding of each material leading to greater confidence in their application. Containing fifty chapters written by subject specialists, Construction Materials Reference Book covers the wide range of materials that are encountered in the construction process, from traditional materials such as stone through masonry and steel to advanced plastics and composites. With increased significance being placed on broader environmental issues, issues of whole life cost and sustainability are covered, along with health and safety aspects of both use and installation.

Materials for Architects and Builders provides a clear and concise introduction to the broad range of materials used within the construction industry and covers the essential details of their manufacture, key physical properties, specification and uses. Understanding the basics of materials is a crucial part of undergraduate and diploma construction or architecture-related courses, and this established textbook helps the reader to do just that with the help of colour photographs and clear diagrams throughout. This new sixth edition has been completely revised and updated to include the latest developments in materials research, new images, appropriate technologies and relevant legislation. The ecological effects of building construction and lifetime use remain an important focus, and this new edition includes a wide range of energy-saving building components.

Fundamental Building Technology introduces the technology, methods, and processes fundamental to construction by focussing on what is involved in building a typical low-rise house. Written with the novice in mind, this textbook is the ideal starting point for any construction student, as it fully supports the reader all the way to understanding the functional requirements of each element of the building, and how to take these into account through the building process itself. This second edition is expanded to cover even more relevant topics, and is supported by more

resources for use by the student and lecturer. Now included are: An introduction to the planning process and the building regulations How to incorporate a sustainable approach, in the selection of materials and elsewhere A companion site with lecturer's answers manual and illustrated lecture notes 150 labelled diagrams throughout the book, and multiple self-study questions in every chapter A students' section of the companion site with multiple choice quizzes and 250 full-colour photos linked to chapters of the book Concise, focussed and the most student-friendly guide to this topic available, Fundamental Building Technology is the perfect textbook for those taking construction technology modules at undergraduate or HNC/HND level.