Role Of Formwork Systems In High Rise Construction

An examination of creative systems in structural and construction engineering taken from conference proceedings. Topics covered range from construction methods, safety and quality to seismic response of structural elements and soils and pavement analysis.

Occupational accidents have a massive personal and social cost as well as a major financial cost. The construction industry is one of the most dangerous industries, accounting for around 20-30% of all occupational deaths worldwide. The accompanying financial cost is either absorbed directly or passed on in the form of higher insurance costs. In addition, regulatory bodies have started to impose legal accountability on all the parties along the construction supply chain. OHS is hard to implement. Construction projects are complex, with a fluid workforce, and the regulatory framework is highly elaborate. OHS Electronic Management Systems for Construction presents a theoretical framework which is designed to overcome these difficulties, integrating OHS management in construction using knowledge management and web technologies. This framework is explained in a clear step-by-step way, as are features such as a systematically developed corporate safety memory, and a virtual learning portal to facilitate

on-demand safety training. The ultimate aim of this book is to aid the development of an established safety culture at the organisational level, and the formation of an industry-wide community of safety practice. This is essential reading for OHS professionals and construction managers attempting to change their industry for the better, as well as advanced students and researchers.

This book set provides a new, global, updated, thorough, clear, and practical risk-based approach to tunnelling design and construction methods, and discusses detailed examples of solutions applied to relevant case histories. It is organized in three sequential and integrated volumes: Volume 1: Concept – Basic Principles of Design Volume 2: Construction – Methods, Equipment, Tools and Materials Volume 3: Case Histories and Best Practices The book covers all aspects of tunnelling, giving useful and practical information about design (Vol. 1), construction (Vol. 2), and best practices (Vol. 3). It provides the following features and benefits: updated vision on tunnelling design, tools, materials, and construction balanced mix of theory, technology, and applied experience different and harmonized points of view from academics, professionals, and contractors easy consultation in the form of a handbook risk-oriented approach to tunnelling problems. The tunnelling industry is amazingly widespread and increasingly important all over

the world, particularly in developing countries. The possible audience of the book are engineers, geologists, designers, constructors, providers, contractors, public and private customers, and, in general, technicians involved in the tunnelling and underground works industry. It is also a suitable source of information for industry professionals, senior undergraduate and graduate students, researchers, and academics.
Companies live or die on the basis of estimating their costs. Preparing estimates and bidding for new jobs is a complex and often costly process. There is no substitute for on the job training -- until now. Drawing on the authors' combined experience of more than 70 years, Estimating Building Costs presents state-of-the-art principles, practices, and techniques for assessing these expenditures that can be applied regardless of changes in the costs of materials, equipment, and labor. The book is an efficient and practical tool for developing contracts or controlling project costs. The authors cover the major components of the direct cost: estimating procedures and cost trends related to materials, construction equipment, and skilled and unskilled labor. They describe various types of building estimates encountered during the lifecycle of a project, as well as the role and accuracy of each. The book provides an overview of the industry, cost indexes in use, approaches to preparing a detailed estimate, and an in-depth description of the

organization and function of the estimating group. Including CSI Master Format and UniFormat codes, estimating forms, a list of available estimating software packages, a detailed construction site and investigation report, the book provides a cost estimating methodology that readers can tailor to their own organizational needs.

Sustainable Building with Earth

Select Proceedings of ICRDSI 2019

FCS Concrete Structures L2

Integrated Design and Cost Management for Civil Engineers

Basics Concrete Construction

This comprehensive resource offers thorough instruction on the principles of construction estimating and helps readers develop the skills they need to become professional estimators. FUNDAMENTALS OF CONSTRUCTION ESTIMATING, Fourth Edition, presents estimating procedures in a straightforward and engaging way, clearly explaining key processes of estimating and costing construction work such as quantity takeoff; pricing of contractor work, sub-trade work, and site overhead; and compiling bid documents. In addition, the text includes drawings of two major projects--one residential and one commercial--to guide readers through a complete estimating process that can be followed by various trades on many different types of construction projects. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Find Practical Solutions to Civil Engineering Design and Cost Management Problems A guide to successfully designing, estimating, and scheduling a civil engineering project, Integrated Design and Cost Management for Civil Engineers shows how practicing professionals can design fit-for-use solutions within established time frames and reliable budgets. This text combines technical compliance with practical solutions in relation to cost planning, estimating, time, and cost control. It incorporates solutions that are technically sound as well as cost effective and time efficient. It focuses on the integration of design and construction based on solid engineering foundations contained within a code of ethics, and navigates engineers through the complete process of project design, pricing, and tendering. Well illustrated The book uses cases studies to illustrate principles and processes. Although they center on Australasia and Southeast Asia, the principles are internationally relevant. The material details procedures that emphasize the correct quantification and planning of works, resulting in reliable cost and time predictions. It also works toward minimizing the risk of losing business through cost blowouts or losing profits through underestimation. This Text Details the Quest for Practical Solutions That: Are cost effective Can be completed within a reasonable timeline Conform to relevant quality controls Are framed within appropriate contract documents Satisfy ethical professional procedures, and Address the client's brief through a structured approach to integrated design and cost management Designed to help civil engineers develop and apply a multitude of skill bases, Integrated Design and

Cost Management for Civil Engineers can aid them in maintaining relevancy in appropriate design justifications, guide work tasks, control costs, and structure project timelines. The book is an ideal link between a civil engineering course and practice.

The definitive guide to formwork design, materials, and methods--fully updated Formwork for Concrete Structures, Fourth Edition, provides current information on designing and building formwork and temporary structures during the construction process. Developed with the latest structural design recommendations by the National Design Specification (NDS 2005), the book covers recent advances in materials, money- and energy-saving strategies, safety guidelines, OSHA regulations, and dimensional tolerances. Up-to-date sample problems illustrate practical applications for calculating loads and stresses. This comprehensive manual also includes new summary tables and equations and a directory of suppliers. Formwork for Concrete Structures, Fourth Edition, covers: Economy of formwork Pressure of concrete on formwork Properties of form material Form design Shores and scaffolding Failures of formwork Forms for footings, walls, and columns Forms for beams and floor slabs Patented forms for concrete floor systems Forms for thin-shell roof slabs Forms for architectural concrete Slipforms Forms for concrete bridge decks Flying deck forms

Dramatically slash the cost of formwork design and construction. With the expense of creating concrete formwork so high--often exceeding the cost of the concrete and steel used in the project itself--you need the

Third Edition of R. L. Peurifoy and G. D. Oberlander's Formwork for Concrete Structures. This authoritiative working tool shows you how to cut costs by making the most of the material, time, labor, and equipment required to design, erect, and remove formwork. You get complete details on state-of-the-art materials and technology plus fast access to scores of tables and practical examples that help you sidestep costly, guesswork and trial-and-errors methods. A completely up-to-date list of formwork material suppliers rounds out this one-of-a-kind money saver.
Commemorating the 90th anniversary of Novosibirsk State University of Architecture and Civil Engineering
Research into Design for Communities, Volume 1
Glass and Concrete Technology, Design, and Construction
Occupational Safety and Hygiene II
FCS Concrete Structures L3

This book is written to introduce the application of high-performance composite materials such as fiber reinforced polymers, functionally graded composites, and sustainable fiber reinforced composites for development of thin-walled plated structures, beams, girders, and deck structures subjected to different kinds of loads. This book also includes test cases and its validation with finite element method using general purpose commercial computer software. Moreover, the book also deals with design methodology of advanced composite materials based on different applications. The comprehensive overview of the state-of-the-art research on the high-performance composite

structures dealing with their stability, response, and failure characteristics will be of significant interest to scientists, researchers, students, and engineers working in the thrust area of advanced composite structures. This book is also helpful for Ph.D. candidates for developing their fundamental understanding on high-performance composite structures, and it will also appropriate for master- and undergraduate-level courses on design of composite structures especially for Civil Engineering Infrastructures.

This book provides an insightful overview of the current state of earth building. The author approaches the subject from the perspective of the building material's life cycle, featuring in-depth explanations of the cycle's individual steps: extraction and classification of construction soil; production of earth building materials and earthen structures; planning, construction and renovation of earth buildings; and demolition and recycling of earthen structures. This unique resource provides examples of sophisticated earth building projects and illustrates the diverse applications of earth as a building material. Compared to conventional mineral building materials, earth possesses particularly positive ecological qualities such as its energy balance and recyclability. Architects, engineers, students, manufacturers and distributors of building materials, building contractors, building biologists, public authorities and preservationists will benefit from this book's

ample coverage of restoring, optimizing and building with this material of the past, present and future.

The volume presents advances in materials research and technology in the area of terotechnology, i.e. the technology of installation, maintenance, replacement and removal of plant machinery and equipment, reliability analysis, technical diagnostics, tribology and technical safety. Specific topics include Cavitation Erosion, Simulation of Particle Erosion, Mechanically-assisted Laser Forming, Laser Machining of Tool Steels, Titanium Carbonitride Coatings, Causes of Cracks in Thermit Welds, Diamond-Like Coatings on Titanium, Reinforcement of Concrete, Fatigue Strength of Construction Elements, Modeling of Mining Support Structures, Surface Treatments of Sintered Stainless Steel, Thermal Welding, Joints of Nickel-Based Superalloys, Robotic Laser Cleaning of Materials, Tribological Properties of Laser-processed ESD Coatings, Laser-modified WC-Cu Electro-Spark Coatings, anti-Graffiti Coating Systems. Keywords: Cavitation Erosion, Simulation of Particle Erosion, Mechanically-assisted Laser Forming, Laser Machining of Tool Steels, Titanium Carbonitride Coatings, Causes of Cracks in Thermit Welds, Diamond-Like Coatings on Titanium, Reinforcement of Concrete, Fatigue Strength of Construction Elements, Modeling of Mining Support Structures, Surface Treatments of Sintered Stainless Steel, Thermal Welding, Joints of

Nickel-Based Superalloys, Robotic Laser Cleaning of Materials, Tribological Properties of Laser-processed ESD Coatings, Laser-modified WC-Cu Electro-Spark Coatings, anti-Graffiti Coating Systems

Provides the building industry (architects, engineers, manufacturers, and contractors) with information and solutions based on actual building projects. Fourteen papers cover: design concerns of exterior wall systems, testing and analysis, structural sealant glazing, stone selection, and precast and

Advances in Secure Computing, Internet Services, and Applications

Recent Developments in Sustainable Infrastructure

Building Matters®

Proceedings of ICoRD 2017

Cyber-Physical Systems in the Built Environment

Concrete is the "modern" construction material that has helped shape the fundamental static principles of structural load bearing. Similar to masonry, concrete effectively transmits pressure downward, but its weak point is tractive forces. Concrete has also enabled freer use of architectonic forms. This title imparts the basic knowledge every architect needs to master for planning reinforced and non-reinforced concrete construction.

Wide-flanged concrete girders are increasingly being used for highway bridges in Wisconsin. The objective of this research was to understand the state of the art of non-metallic SIP forms and to develop design guidelines and performance specifications that

can be used locally for the construction of highway bridge decks. Four major types of stay-in-place (SIP) forms using fiber reinforced concrete (FRC) or fiber reinforced polymer (FRP) materials were investigated: fiber reinforcements, grid reinforcements, bar reinforcements and pultruded profiles. The results were used to develop a model design and construction specification for non-structural, non-metallic, SIP forms in highway bridge decks.

This book showcases cutting-edge research papers from the 6th International Conference on Research into Design (ICoRD 2017) – the largest in India in this area – written by eminent researchers from across the world on design process, technologies, methods and tools, and their impact on innovation, for supporting design for communities. While design traditionally focused on the development of products for the individual, the emerging consensus on working towards a more sustainable world demands greater attention to designing for and with communities, so as to promote their sustenance and harmony - within each community and across communities. The special features of the book are the insights into the product and system innovation process, and the host of methods and tools from all major areas of design research for the enhancement of the innovation process. The main benefit of the book for researchers in various areas of design and innovation are access to the latest quality research in this area, with the largest collection of research from India. For practitioners and educators, it is exposure to an empirically validated suite of theories, models, methods and tools that can be taught and practiced for design-led innovation. The contents of this volume will be of use to researchers and professionals working in the areas on industrial design, manufacturing, consumer goods, and industrial

management.

Offers insights on currently-used concrete formwork structures, from classification, system components and materials' properties to selection and construction requirements and procedures, while considering product quality, labour, safety and economic factors throughout.

Constructability Criteria, and Modular Design Factors for Concrete Formwork

Volume 2: Construction – Methods, Equipment, Tools and Materials

Informed Form Generation

Decision Making and Operations Research Techniques for Construction Management

Terotechnology

This book provides scientific tools for practitioners to resolve some practical problems which are administered empirically at present and may lead to inconsistent results and human errors. The modern decision-making tools introduced in this book include Multi-criteria Decision-making Models, Artificial Neural Network, Genetic Algorithms, Construction Simulation, Rough Set Theory and Advanced Statistical Techniques for construction. Published by City University of Hong Kong Press. ????????????

The second edition of the Structural Concrete Textbook is an extensive revision that reflects advances in knowledge and technology over the past decade. It was prepared in the intermediate period from the CEP-FIP Model Code 1990 (MC90) to fib Model Code for Concrete Structures 2010 (MC2010), and as such incorporates a significant amount of information that has

been already finalized for MC2010, while keeping some material from MC90 that was not yet modified considerably. The objective of the textbook is to give detailed information on a wide range of concrete engineering from selection of appropriate structural system and also materials, through design and execution and finally behaviour in use. The revised fib Structural Concrete Textbook covers the following main topics: phases of design process, conceptual design, short and long term properties of conventional concrete (including creep, shrinkage, fatigue and temperature influences), special types of concretes (such as self compacting concrete, architectural concrete, fibre reinforced concrete, high and ultra high performance concrete), properties of reinforcing and prestressing materials, bond, tension stiffening, moment-curvature, confining effect, dowel action, aggregate interlock; structural analysis (with or without time dependent effects), definition of limit states, control of cracking and deformations, design for moment, shear or torsion, buckling, fatigue, anchorages, splices, detailing; design for durability (including service life design aspects, deterioration mechanisms, modelling of deterioration mechanisms, environmental influences, influences of design and execution on durability); fire design (including changes in material and structural properties, spalling, degree of deterioration), member design (linear members and slabs with reinforcement layout, deep beams); management, assessment, maintenance, repair (including, conservation strategies, risk management, types of interventions) as well as aspects of execution

(quality assurance), formwork and curing. The updated textbook provides the basics of material and structural behaviour and the fundamental knowledge needed for the design, assessment or retrofitting of concrete structures. It will be essential reading material for graduate students in the field of structural concrete, and also assist designers and consultants in understanding the background to the rules they apply in their practice. Furthermore, it should prove particularly valuable to users of the new editions of Eurocode 2 for concrete buildings, bridges and container structures, which are based only partly on MC90 and partly on more recent knowledge which was not included in the 1999 edition of the textbook.

Over the past decades we witnessed a tremendous shift in the principles of architectural design based on the advancement of computer aided design and manufacturing. Computation in architecture came with a whole new set of techniques as well as theories that did change the way we build and design today. This research investigates ways to embed computational simulation and optimisation into architectural design processes at an early, conceptual stage. Simulation and optimization are not seen as a post-design strategy to improve performance aspects of a well-developed design, but rather as design strategies in their own rights. Therefore, design approaches employing simulation and optimization were developed, tested and discussed. Conditions and prerequisites for successfully embedding simulation and optimization into architectural design processes were formulated and benefits were

derived. Design approaches that use digital simulation and optimization are characterised by not favouring rational form finding above intuitive form making, or vice versa – they rather support informed design decisions. Therefore, Informed Form Generation is established as a design approach within this thesis. It is not one specific, universally applicable process, but rather comprises a category of approaches and constitutes an attitude.

The book contains the latest studies on digitalization of transport and logistics, improving vehicle fuel efficiency, information technology and digital security, land management and cadastres, building structures, structural analysis, and energy conservation in construction. This book consists of papers presented during the XIII International Scientific Conference on Architecture and Construction 2020, which is dedicated to the 90th anniversary of Novosibirsk State University of Architecture and Civil Engineering, held on September 22–24, 2020. The book caters to researchers, scientists and industrial practitioners in the field of transportation engineering, logistics, intelligent transport systems, sustainable construction for housing and industrial buildings.

Concrete Formwork Systems

Horizontal Formwork Design Optimization & Selection System Using Genetic Algorithms

Formwork for Concrete Structures

How To Build A Hemp House

Reinforced Concrete Design of Tall Buildings

Basic Civil Engineering is designed to enrich the preliminary conceptual

knowledge about civil engineering to the students of non-civil branches of engineering. The coverage includes materials for construction, building construction, basic surveying and other major topics like environmental engineering, geo-technical engineering, transport traffic and urban engineering, irrigation & water supply engineering and CAD.

Formwork has often been defined as a temporary building element, typically neglected and rarely interpreted by architects as nothing more than a byproduct of construction. However, by reconceptualizing its role as a permanent building component, its construction performance now can be evaluated in parallel with its architectural function. This research reinterprets standard casting conventions as a means of rethinking design parameters, one that considers form and formwork during and after construction as equals in terms of architectural significance.

Abstract: Concrete works in most of the construction projects can be broken down into three main items; Formwork, Steel work, and concreting, No doubt, concrete works account for a large portion of construction projects budgets. As stated

by Awad S. Hanna (1999), formwork material and labor can account for 40 to 60 percent of the cost of concrete works; however this percentage can vary slightly from country to another. That is why it is important to select an appropriate formwork system for a project; otherwise the project cost will be affected negatively. Formwork systems can be classified by their function into vertical and horizontal formwork systems, where horizontal formwork is used to support slabs, and beams, while the vertical formwork supports vertical elements like the columns. There have been attempts to optimize the design of formwork, and create a systematic approach for formwork selection based on expert opinion for both vertical and horizontal formwork systems. Despite the fact that expert based systems have been successfully applied to different projects; however, incorporating formwork design optimization with formwork selection system in one research or model is still not applied; especially for horizontal formwork systems. Therefore, the model developed in this research tackles the gap in literature, concerning the need for a formwork selection system that is not based on experts' opinion, and that can output a purchase cost and

detailed quantity take-off with reasonable accuracy for the selected formwork system out of conventional wood formwork system, props system, frames system, and cuplock system for regularly shaped projects. In the research, a cost equation was developed, in order to compare all the formwork systems, while considering all the parameters affecting that selection. The model is developed using Microsoft Excel 2007 and Evolver 5.5(Palisade Decision tools), which is an excel add in that uses the Evolutionary algorithms (Genetic algorithm) optimization concept. In order to validate the model, the outputted designs were compared with real-life projects design calculation sheets prepared by Acrow Masr formwork company, while the quantity take-offs outputted from the model were compared to manual calculations, and yielded an accuracy of more than 90 percent. After the model output was validated, it was successfully applied to a high-rise construction project in Egypt, and the most appropriate formwork system for that project was outputted with a purchase cost, and design parameters. The formwork selection system was applied to an optimized low income housing plan developed in previous research; highlighting the appropriate

formwork systems to be used based on the number of formwork uses per year; in addition to developing a complete formwork design drawings for these selected systems.

Occupational Safety and Hygiene II contains selected papers from the International Symposium on Occupational Safety and Hygiene (SHO2014, Guimarães, Portugal, 13-14 February 2014), which was organized by the Portuguese Society for Occupational Safety and Hygiene (SPOSHO). The contributions focus on selected topics, which include (but is not limited to): Occupational safety Risk assessment Safety management Ergonomics Management systems Environmental ergonomics Physical environments Construction safety, and Human factors The contributions in Occupational Safety and Hygiene II are mainly based on research carried out at universities and other research institutions, but also on practical studies developed by Occupational Health & Safety (OHS) Practitioners within their companies. Accordingly, this book will be a helpful text to get acquainted with the state-of-the-art of the research within the mentioned domains, as well as with some practical tools and approaches that are currently used by OHS professionals in

a global context.
Exterior Wall Systems
Quality Function Deployment for Buildable and Sustainable Construction
Structural Concrete Textbook, Volume 4
Embedding simulation and optimization into architectural design
Proceedings of the 7th International Congress on Construction History (7ICCH 2021), July 12-16, 2021, Lisbon, Portugal

The first edition of this comprehensive work quickly filled the need for an in-depth handbook on concrete construction engineering and technology. Living up to the standard set by its bestselling predecessor, this second edition of the Concrete Construction Engineering Handbook covers the entire range of issues pertaining to the construction

An exploration of the world of concrete as it applies to the construction of buildings, Reinforced Concrete Design of Tall Buildings provides a practical perspective on all aspects of reinforced concrete used in the design of structures, with particular focus on tall and ultra-tall buildings. Written by Dr. Bungale S. Taranath, this work explains

the fundamental principles and state-of-the-art technologies required to build vertical structures as sound as they are eloquent. Dozens of cases studies of tall buildings throughout the world, many designed by Dr. Taranath, provide in-depth insight on why and how specific structural system choices are made. The book bridges the gap between two approaches: one based on intuitive skills and experience and the other based on computer skills and analytical techniques. Examining the results when experiential intuition marries unfathomable precision, this book discusses: The latest building codes, including ASCE/SEI 7-05, IBC-06/09, ACI 318-05/08, and ASCE/SEI 41-06 Recent developments in studies of seismic vulnerability and retrofit design Earthquake hazard mitigation technology, including seismic base isolation, passive energy dissipation, and damping systems Lateral bracing concepts and gravity-resisting systems Performance based design trends Dynamic response spectrum and equivalent lateral load procedures Using realistic examples throughout, Dr.

Taranath shows how to create sound, cost-efficient high rise structures. His lucid and thorough explanations provide the tools required to derive systems that gracefully resist the battering forces of nature while addressing the specific needs of building owners, developers, and architects. The book is packed with broad-ranging material from fundamental principles to the state-of-the-art technologies and includes techniques thoroughly developed to be highly adaptable. Offering complete guidance, instructive examples, and color illustrations, the author develops several approaches for designing tall buildings. He demonstrates the benefits of blending imaginative problem solving and rational analysis for creating better structural systems.

This book focuses on the implementation of Quality Function Deployment (QFD) in the construction industry as a tool to help building designers arrive at optimal decisions for external envelope systems with sustainable and buildable design goals. In particular, the book integrates special features into the conventional QFD tool to enhance its performance.

These features include a fuzzy multi-criteria decision-making method, fuzzy consensus scheme, and Knowledge Management System (KMS). This integration results in a more robust decision support tool, known as the Knowledge-based Decision Support System QFD (KBDSS-QFD) tool. As an example, the KBDSS-QFD tool is used for the assessment of building envelope materials and designs for high-rise residential buildings in Singapore in the early design stage. The book provides the reader with a conceptual framework for understanding the development of the KBDSS-QFD tool. The framework is presented in a generalized form in order to benefit building professionals, decision makers, analysts, academics and researchers, who can use the findings as guiding principles to achieve optimal solutions and boost efficiency. Technological advancements have extracted a vast amount of useful knowledge and information for applications and services. These developments have evoked intelligent solutions that have been utilized in efforts to secure this data and avoid

potential complex problems. Advances in Secure Computing, Internet Services, and Applications presents current research on the applications of computational intelligence in order to focus on the challenge humans face when securing knowledge and data. This book is a vital reference source for researchers, lecturers, professors, students, and developers, who have interest in secure computing and recent advanced in real life applications.

History of Construction Cultures Volume 2

Fundamentals of Construction Estimating

An Investigation Into the Use of Dynamic Formwork Systems

Field Reference Manual

Fifth International PhD Symposium in Civil Engineering

This book introduces researchers and practitioners to Cyber-Physical Systems (CPS) and its applications in the built environment. It begins with a fundamental introduction to CPS technology and associated concepts.It then presents numerous examples of applications from managing construction projects to smart transportation systems and smart cities. It concludes with a discussion of future directions for CPS deployment in the construction, operation and

maintenance of constructed facilities. Featuring internationally recognized experts as contributors, Cyber-Physical Systems in the Built Environment, is an ideal resource for engineers, construction managers, architects, facilities managers, and planners working on a range of building and civil infrastructure projects. Volume 2 of History of Construction Cultures contains papers presented at the 7ICCH – Seventh International Congress on Construction History, held at the Lisbon School of Architecture, Portugal, from 12 to 16 July, 2021. The conference has been organized by the Lisbon School of Architecture (FAUL), NOVA School of Social Sciences and Humanities, the Portuguese Society for Construction History Studies and the University of the Azores. The contributions cover the wide interdisciplinary spectrum of Construction History and consist on the most recent advances in theory and practical case studies analysis, following themes such as: - epistemological issues; - building actors; - building materials; - building machines, tools and equipment; - construction processes; - building services and techniques ; -structural theory and analysis ; - political, social and economic aspects; - knowledge transfer and cultural translation of construction cultures. Furthermore, papers presented at thematic sessions aim at covering important problematics, historical periods and different regions of the globe, opening new directions for Construction History research. We are what we build and how we build; thus, the study of Construction History is now more than ever at the centre of current debates as to the shape of a sustainable future for humankind.

Therefore, History of Construction Cultures is a critical and indispensable work to expand our understanding of the ways in which everyday building activities have been perceived and experienced in different cultures, from ancient times to our century and all over the world. Building Construction Estimating furnishes readers with specific details on how a general building contractor derives the cost of a project before it begins, and how the estimate fits into the total construction process. The book provides coverage of such areas as determining labor productivity and wages, selecting equipment and assigning productivity rates and costs, acquiring specialty contractor prices, and assigning overhead costs and profit. The material is presented from the point of view of a general contractor working on a competitively bid stipulated-sum (lump-sum) contract. However, other contract methods and the effects they have on the estimating process are also discussed. Furthermore, the principles of estimating for the specialty trades are discussed from the reference of a general building contractor, and how the subcontractor's bid will affect the total project cost is presented. Of special note is the book's introduction and utilization of computers in the estimating process - enabling readers to utilize new technology in an effective and efficient manner. The book is organized in a way that first teaches the reader to perform many of the estimating activities manually, then guides them in developing a computer spreadsheet. The use of spreadsheets empowers the reader to go beyond the manual calculations and develop new and more proficient solutions to estimating problems.

This book comprises select peer-reviewed proceedings of the International Conference on Recent Developments in Sustainable Infrastructure (ICRDSI) 2019. The topics span over all major disciplines of civil engineering with regard to sustainable development of infrastructure and innovation in construction materials, especially concrete. The book covers numerical and analytical studies on various topics such as composite and sandwiched structures, green building, groundwater modeling, rainwater harvesting, soil dynamics, seismic resistance and control of structures, waste management, structural health monitoring, and geo-environmental engineering. This book will be useful for students, researchers and professionals working in sustainable technologies in civil engineering.

OHS Electronic Management Systems for Construction

Handbook on Tunnels and Underground Works

Proceedings of the XIII International Scientific Conference on Architecture and Construction 2020

Specification and Design of Fiber Reinforced Bridge Deck Forms for Use on Wide Flange T-girders

Concrete Construction Engineering Handbook

Papers from the Fifth International PhD Symposium in Civil Engineering held in Delft 2004, featuring research projects from PhD candidates from twenty-eight countries on current ongoing research in Civil Engineering.

Guide to Formwork for Concrete

Estimating Building Costs

Formwork For Concrete Structures

Stability and Failure of High Performance Composite Structures
Asian Architect and Contractor