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*Proceedings of the Canadian Society of Civil Engineering Annual Conference 2021* - Scott Walbridge 2022  
This book comprises the proceedings of the Annual Conference of the Canadian Society of Civil Engineering 2021. The contents of this volume focus on specialty conferences in construction, environmental, hydrotechnical, materials, structures, transportation engineering, etc. This volume will prove a valuable resource for those in academia and industry.

**Construction in 5D: Deconstruction, Digitalization, Disruption, Disaster, Development** - Theo C. Haupt 2022-06-21

This book gathers the latest advances, innovations, and applications in built environment, as presented by international researchers at the 15th Built Environment Conference, held in Durban, South Africa, on September 27-28, 2021, and organized by the Association of Schools of Construction of Southern Africa (ASOCSA). The overarching theme of the conference was "Construction in 5D: Deconstruction, Digitalization, Disruption, Disaster, Development", with contributions focusing on current trends, innovations, opportunities and challenges, policies and procedures, legislation and regulations, practices and case studies, in both the public and private sectors. The volume will contribute to the existing body of knowledge relative to the science and practice of construction not only in South Africa but wherever the products of construction are produced even in these new challenging times of fear and uncertainty.

**Advances in Civil Engineering** - Scott Arthur 2021-12-01

This book presents select proceedings of the 5th International Conference on Advances in Civil Engineering (ICACE 2020), covering basic civil engineering branches. The book covers some hands-on articles on different realistic problems in civil engineering. It highlights the current application of advanced civil engineering knowledge in developing countries. Various topics covered include construction and building materials, eco-friendly ground improvement, water and wastewater management, solid waste management, durability of concrete structures, various aspects of foundation engineering, transportation engineering & planning scenarios in developing countries, and highway materials. A few articles also discussed the advancement in civil engineering fields from global perspectives too. The book will be useful for professionals and researchers working in the area of civil engineering.

**Technological Advancements in Construction** - Angela Mottaeva

The book consists of original research papers in the field of Technological Advancements in Construction. It covers such topics as non-destructive testing, structural health monitoring, innovative composite materials, strengthening and rehabilitation of buildings and structures, seismic resilience of structures, thermal protection of buildings, construction and operation of buildings and structures in extreme climatic conditions, structural dynamics and vibration control, and green construction. The book contains latest information on structural mechanics of composite materials and structures, theoretical and computational modeling of new materials and structures, experimental and numerical analysis in building rehabilitation and strengthening, analytical, numerical and experimental methodologies for the analysis of multilayered structures, and advanced methods for seismic performance evaluation of building structures. The book includes original research and application papers of high academic level, where significant scientific novelty is clearly demonstrated. The book presents a valuable tool for researchers and construction professionals.

**Current Trends in Civil Engineering** - Job Thomas 2020-11-20

This book comprises the select proceedings of the International Conference on Recent Advances in Civil Engineering (ICRACE) 2020, held at the Cochin University of Science and Technology, Cochin, Kerala, India. The book focuses on latest research in different areas of civil engineering and lays special emphasis on sustainable construction practices. It is divided into seven major themes: (i) Modern materials and sustainable construction, (ii) Environmental engineering and management, (iii) Geotechnical engineering, (iv) Health, safety and environment, (v) Irrigation, water resources and management, (vi) Structural Engineering, and (vii) Transportation engineering and traffic planning. Given the range of the topics covered, this book can be useful for students, scholars and professionals interested in the different sub-disciplines of civil engineering.

**Farm Machinery and Processes Management in Sustainable Agriculture** - Simone Pascuzzi 2022-09-13

This volume gathers the latest advances, innovations, and applications in the field of sustainable and smart agriculture, as presented by leading researchers at the XI Farm Machinery and Processes Management in Sustainable Agriculture (FMPMSA), held in Bari, Italy on June 13-15, 2022. The volume covers highly diverse topics, including: management of field and livestock production machinery; management of biomass and agroenergy production; plant protection, soil management and agrochemicals application; smart farming and sustainability; ergonomic, labour organization, pandemic impact; sustainable agriculture in the European Union and other countries. The papers, which are published after a rigorous international peer-review process, highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaboration among different specialists.

**Principles of Applied Civil Engineering Design** - Ying-Kit Choi 2017

Ying-Kit Choi walks engineers through standard practices, basic principles, and design philosophy needed to prepare quality design and construction documents for a successful infrastructure project.

**Soil Dynamics** - T. G. Sitharam 2021-03-31

This volume presents select papers presented at the 7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics. The papers discuss advances in the fields of soil dynamics and geotechnical earthquake engineering. A strong emphasis is placed on connecting academic research and field practice, with many examples, case studies, best practices, and discussions on performance based design. This volume will be of interest to researchers and practicing engineers alike.

**Proceedings of the 3rd International Conference on Sustainability in Civil Engineering** - Thanh Bui-Tien 2021-04-27

This book contains the proceedings of the 3rd International Conference on Sustainability in Civil Engineering, ICSCE 2020, held on 26-27 November 2020, in Hanoi, Vietnam. It presents the expertise of scientists and engineers in academia and industry in the field of bridge and highway engineering, construction materials, environmental engineering, engineering in industry 4.0, geotechnical engineering, structural damage detection and health monitoring, structural engineering, geographic information system engineering, traffic, transportation and logistics engineering, water resources, estuary and coastal engineering.

**Advances in Construction Management** - Lee Yee Loon 2022

This book presents the select proceedings of the International Conference on Advances in Construction

Materials and Management (ACMM 2021). It discusses the recent innovations towards construction management, building technology and new materials in practice in civil engineering. Various topics covered include architecture and urban planning, smart materials and structures, GIS in construction application, transportation materials and engineering, geotechnical applications in construction, energy and sustainability, green building technologies and materials and construction management. The book will be useful for beginners, researchers and professionals working in the area of civil engineering. .

*Mechanical Modelling and Computational Issues in Civil Engineering* - Michel Fremond 2006-07-16

In this edited book various novel approaches to problems of modern civil engineering are demonstrated. Experts associated within the Lagrange Laboratory present recent research results in civil engineering dealing both with modelling and computational aspects. Many modern topics are covered, such as monumental dams, soil mechanics and geotechnics, granular media, contact and friction problems, damage and fracture, new structural materials, and vibration damping – presenting the state of the art of mechanical modelling and computational issues in civil engineering.

*ICSECM 2019* - Ranjith Dissanayake 2020-09-18

This book highlights current research and developments in the area of Structural Engineering and Construction Management, which are important disciplines in Civil Engineering. It covers the following topics and categories of Structural Engineering. The main chapters/sections of the proceedings are Structural and Solid Mechanics, Construction Materials, Systems and Management, Loading Effects, Construction Safety, Architecture & Architectural Engineering, Coastal Engineering, Foundation engineering, Materials, Sustainability. The content of this book provides necessary knowledge for construction management practices, new tools and technologies on local and global levels in civil engineering which can mitigate the negative effects of built environment.

**Recent Trends in Construction Technology and Management** - Mahadeo Sambhaji Ranadive 2022

This book presents the select proceedings of the International Conference on Advances in Construction Technology and Management (ACTM 2021) and explores recent and innovative developments in all aspects of civil engineering. Advanced construction technologies such as 3D printing, intelligently built environment, use of artificial intelligence, smart structures, green buildings, advanced and engineered materials for producing green concrete, and many more such topics are covered in this book. The advanced management tools such as building information modeling, augmented reality, advanced task management software, and one of the most recent technological advancements are drones, which are changing the face of surveying and security are also explored. This book will be useful for researchers, academicians, and practitioners working in the area of civil engineering and allied fields.

*Modern Applications of Geotechnical Engineering and Construction* - Mahdi O. Karkush 2020-12-21

This book contains select papers from the International Conference on Geotechnical Engineering Iraq discussing the challenges, opportunities, and problems of application of geotechnical engineering in projects. The contents cover a wide spectrum of themes in geotechnical engineering, including but not limited to sustainability & geotechnical engineering, modeling of foundations & slope stability, seismic analysis & soil mechanics, construction materials, and construction & management of projects. This volume will prove a valuable resource for practicing engineers and researchers in the field of geotechnical engineering, structural engineering, and construction and management of projects. ^

**Advances in Sustainable Construction and Resource Management** - Hemanta Hazarika 2021-03-06

This book comprises the proceedings of the 1st International Symposium on Construction Resources for Environmentally Sustainable Technologies. The contents of this volume focus on issues related to natural and man-made disasters, and discuss solutions through the use of alternative resources, towards building a sustainable and resilient society from geotechnical perspectives. Some of the themes covered include recycled materials in geotechnical constructions, management and utilization of disaster wastes, climate change independent natural disasters, socio-economic and environmental aspects in sustainable construction, physical and numerical modelling of disaster mitigation techniques, etc. This book will be beneficial to researchers, practitioners, and policy-makers alike.

*Recent Developments in Sustainable Infrastructure* - Bibhuti Bhusan Das 2020-07-03

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.

**Recent Advancements in Civil Engineering** - Boeing Laishram 2022

This book presents select proceedings of the International Conference on Advances in Civil Engineering (ACE 2020). The book examines the recent advancements in construction management, construction materials, environmental engineering, geotechnical engineering, transportation engineering, water resource engineering, and structural engineering. The topics covered include sustainable construction process and materials, smart infrastructures, green building technology, global environmental change and ecosystem management, theoretical and analytical solutions for foundation engineering, smart transportation systems and policy, GIS applications in water resource management, structural analysis for blast and impact resistance, and soft computing techniques in civil engineering. The book will be useful for researchers and professionals in the field of civil engineering.

*Sustainable Building Materials and Construction* - B. Kondraivendhan 2022-05-13

This book presents the select proceedings of the International Conference on Sustainable Building Materials and Construction (ICSBMC 2021), and examines a range of durable, energy-efficient, advance construction and building materials produced from industrial wastes and byproducts. The topics covered include advanced construction materials, durability of concrete structures, waste utilization, repair & rehabilitation of concrete structures, structural analysis & design, composites, nanomaterials and smart materials in seismic engineering. The book also discusses various properties and performance attributes of modern-age concretes including their strength, durability, workability, and carbon footprint. This book will be a precious reference for beginners, researchers, and professionals interested in sustainable construction and allied fields.

**Applications of Geomatics in Civil Engineering** - Jayanta Kumar Ghosh 2019-06-19

This book comprises select proceedings of the First International Conference on Geomatics in Civil Engineering (ICGCE 2018). This book presents latest research on applications of geomatics engineering in different domains of civil engineering, like structural engineering, geotechnical engineering, hydraulic and water resources engineering, environmental engineering and transportation engineering. It also covers miscellaneous applications of geomatics in a wide range of technical and societal problems making use of geospatial information, engineering principles, and relational data structures involving measurement sciences. The book proves to be very useful for the scientific and engineering community working in the field of geomatics and geospatial technology.

*Recent Advances in Structural Engineering* - Srinivasan Chandrasekaran 2021-05-02

The book presents the select proceedings of National Conference on Recent Advances in Structural Engineering (NCRASE 2020). Various topics covered in this book include advanced structural materials, computational methods of structures, earthquake resistant analysis and design, analysis and design of structures against wind loads, pre-stressed concrete structures, bridge engineering, experimental methods and techniques of structures, offshore structures, composite structures, smart materials and structures, port and harbor structures, structural dynamics, high rise structures, sustainable materials in the construction technology, advanced structural analysis, extreme loads on structures, innovative structures, and special structures. The book will be useful for researchers and professional working in the field of structural engineering.

*Recent Advances in Civil Engineering* - Lakshman Nandagiri 2022

This book presents the select proceedings of the International Conference on Civil Engineering Trends and Challenges for Sustainability (CTCS 2021). It discusses emerging and latest research and advances in sustainability in different areas of civil engineering, providing solutions to sustainable development. Various topics covered include sustainable construction technology & building materials; structural

engineering, transportation and traffic engineering, geotechnical engineering, environmental engineering, water resources engineering, remote sensing and GIS applications. This book will be of potential interest to researchers and professionals working in sustainable civil engineering and related fields.

*Experimental Vibration Analysis for Civil Engineering Structures* - Zhishen Wu 2022-08-23

This book presents selected, peer-reviewed contributions from the 9th International Conference on Experimental Vibration Analysis for Civil Engineering Structures (EVACES 2021), organized by the University of Tokyo and Saitama University from September 17-20, 2021 on the Hongo campus of the University of Tokyo, and hosted in an online format. The event brought together engineers, scientists, researchers, and practitioners, providing a forum for discussing and disseminating the latest developments and achievements in all major aspects of dynamic testing for civil engineering structures, including instrumentation, sources of excitation, data analysis, system identification, monitoring and condition assessment, in-situ and laboratory experiments, codes and standards, and vibration mitigation. The topics of EVACES 2021 included but were not limited to: damage identification and structural health monitoring; testing, sensing and modeling; vibration isolation and control; system and model identification; coupled dynamical systems (including human-structure, vehicle-structure, and soil-structure interaction); and application of advanced techniques involving the Internet of Things, robot, UAV, big data and artificial intelligence.

**PROCEEDINGS OF THE CANADIAN SOCIETY OF CIVIL ENGINEERING ANNUAL CONFERENCE** - Scott Walbridge 2022

This book comprises the proceedings of the Annual Conference of the Canadian Society of Civil Engineering 2021. The contents of this volume focus on specialty conferences in construction, environmental, hydrotechnical, materials, structures, transportation engineering, etc. This volume will prove a valuable resource for those in academia and industry.

**Digital Technologies in Construction Engineering** - Sergey Vasil'yevich Klyuev 2021-11-30

This book gathers the latest advances, innovations, and applications in the field of construction engineering, as presented by researchers and engineers at the Digital Technologies in Construction Engineering conference, held in Belgorod, Russia, on June 8-9, 2021. It covers highly diverse topics, including industrial and civil construction, building materials; environmental engineering and protection; sustainability; structure safety and special construction structures. The contributions, which were selected by means of a rigorous international peer-review process, highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaborations.

Earthquakes and Structures - T. G. Sitharam 2021-11-19

This volume presents select papers presented at the 7th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics. The papers discuss advances in the fields of earthquake engineering connected with structures. Some of the themes include soil structure interaction, dynamic analysis, underground structures, vibration isolation, seismic response of buildings etc. A strong emphasis is placed on connecting academic research and field practice, with many examples, case studies, and best practices. This volume will be of interest to researchers and practicing engineers alike.

**Recent Trends in Civil Engineering** - Arjun Sil 2022-10-03

This book presents the select proceedings of International Conference on Recent Advancements in Civil Engineering (ICRACE) 2021. Various topics covered include theory and advanced technology of engineering structure, high-rise structure and large-span, structure, bridge and tunnel engineering, advanced concrete technology, durable structures, building energy conservation and green architecture, disaster management, smart structures and materials, soil and rock mechanics, geotechnology, hydraulic and hydro-power engineering, road & bridge engineering, and sustainable transportation infrastructures. This book will be useful for researchers and professionals working in the area of civil engineering and allied fields.

Experimental Vibration Analysis for Civil Structures - Joel P. Conte 2017-10-11

This edited volume presents selected contributions from the International Conference on Experimental Vibration Analysis of Civil Engineering Structures held in San Diego, California in 2017 (EVACES2017). The event brought together engineers, scientists, researchers, and practitioners, providing a forum for

discussing and disseminating the latest developments and achievements in all major aspects of dynamic testing for civil engineering structures, including instrumentation, sources of excitation, data analysis, system identification, monitoring and condition assessment, in-situ and laboratory experiments, codes and standards, and vibration mitigation.

*Civil Engineering Body of Knowledge* - Civil Engineering Body of Knowledge 3 Task Committee 2019

This report outlines 21 foundational, technical, and professional practice learning outcomes for individuals entering the professional practice of civil engineering.

*Advances in Civil Engineering* - Rao Martand Singh 2020-09-21

This volume comprises select peer reviewed papers presented at the international conference - Advanced Research and Innovations in Civil Engineering (ARICE 2019). It brings together a wide variety of innovative topics and current developments in various branches of civil engineering. Some of the major topics covered include structural engineering, water resources engineering, transportation engineering, geotechnical engineering, environmental engineering, and remote sensing. The book also looks at emerging topics such as green building technologies, zero-energy buildings, smart materials, and intelligent transportation systems. Given its contents, the book will prove useful to students, researchers, and professionals working in the field of civil engineering.

**Advances in Geotechnics and Structural Engineering** - Sanjay Kumar Shukla 2021-04-29

This book comprises select proceedings of the International Conference on Trends and Recent Advances in Civil Engineering (TRACE 2020). The book focuses on the latest research developments in structural engineering, structural health monitoring, rehabilitation and retrofitting of structures, geotechnical engineering, and earthquake-resistant structures. The contents also cover the latest innovations in building repair and maintenance, and sustainable materials for rehabilitation and retrofitting. The contents of this book are useful for students, researchers, and professionals working in structural engineering and allied areas.

Environmental and Construction Engineering: Reality and the Future - Sergey Vasil'yevich Klyuev 2021-06-06

This book gathers the latest advances, innovations, and applications in the field of construction engineering, as presented by researchers and engineers at the International Conference Environmental and Construction Engineering: Reality and the Future, held in Belgorod, Russia, on May 18-19, 2021. It covers highly diverse topics, including industrial and civil construction, building materials; environmental engineering and sustainability; machines, aggregates and processes in construction. The contributions, which were selected by means of a rigorous international peer-review process, highlight numerous exciting ideas that will spur novel research directions and foster multidisciplinary collaborations.

CIGOS 2021, Emerging Technologies and Applications for Green Infrastructure - Cuong Ha-Minh 2021-10-28

This book highlights the key role of green infrastructure (GI) in providing natural and ecosystem solutions, helping alleviate many of the environmental, social, and economic problems caused by rapid urbanization. The book gathers the emerging technologies and applications in various disciplines involving geotechnics, civil engineering, and structures, which are presented in numerous high-quality papers by worldwide researchers, practitioners, policymakers, and entrepreneurs at the 6th CIGOS event, 2021. Moreover, by sharing knowledge and experiences around emerging GI technologies and policy issues, the book aims at encouraging adoption of GI technologies as well as building capacity for implementing GI practices at all scales. This book is useful for researchers and professionals in designing, building, and managing sustainable buildings and infrastructure.

*Recent Advances in Traffic Engineering* - Shriniwas S. Arkatkar 2020-08-28

This book comprises select proceedings of the National Conference on Recent Advances in Traffic Engineering (RATE 2018) with technical papers on the themes of traffic operation control and management, traffic safety and vulnerable road users, and sustainable transportation. It covers a wide range of topics, including advanced traffic data collection methods, big data analysis, mix-traffic characterization and modelling, travel time reliability, scenario of pedestrian and non-motorised vehicles (NMTVs) traffic, regional traffic growth modelling, and applications of intelligent transportation systems (ITS) in traffic management.

The contents of this book offer up-to-date and practical knowledge on different aspects of traffic engineering, which is useful for students, researchers as well as practitioners.

**Construction in Geotechnical Engineering** - Madhavi Latha Gali 2020-09-12

This volume comprises select papers presented during the Indian Geotechnical Conference 2018. This volume discusses construction challenges and issues in geotechnical engineering. The contents cover foundation design and analysis, issues related to geotechnical structures, including dams, retaining walls, embankments and pavements, and rock mechanics and construction in rocks and rocky environments. Many of the papers discuss live case studies related to important geotechnical engineering projects worldwide, providing useful insights into the realistic designs and constructions. This volume will be of interest to students, researchers and practitioners alike.

*Recent Developments in Sustainable Infrastructure (ICRDSI-2020)—Structure and Construction Management* - B. B. Das 2022-05-27

This book includes selected papers from the International Conference on Recent Developments in Sustainable Infrastructure (ICRDSI-2020) and consists of themes pertaining to structural engineering and construction technology and management.

*Advances in Civil Engineering and Infrastructural Development* - Laxmikant Madanmanohar Gupta 2020-11-13

This book comprises selected proceedings of the International Conference on Recent Advancements in Civil Engineering and Infrastructural Developments (ICRACEID 2019). The contents are broadly divided into five areas (i) smart transportation with urban planning, (ii) clean energy and environment, (iii) water distribution and waste management, (iv) smart materials and structures, and (v) disaster management. The book aims to provide solutions to global challenges using innovative and emerging technologies covering various fields of civil engineering. The major topics covered include urban planning, transportation, water distribution, waste management, disaster management, environmental pollution and control, environmental impact assessment, application of GIS and remote sensing, and structural analysis and design. Given the range of topics discussed, the book will be beneficial for students, researchers as well industry professionals.

*Sustainability Trends and Challenges in Civil Engineering* - Lakshman Nandagiri 2021-09-02

This book presents the select proceedings of the International Conference on Civil Engineering Trends and Challenges for Sustainability (CTCS 2020). The chapters discuss emerging and latest research and advances in sustainability in different areas of civil engineering, which aim to provide solutions to sustainable development. The contents are broadly divided into the following categories: construction technology and building materials, structural engineering, transportation and geotechnical engineering, environmental and water resources engineering, and RS-GIS applications. This book will be of potential interest to beginners, researchers, and professionals working in the area of sustainable civil engineering and related fields.

**Recent Trends in Civil Engineering** - K. K. Pathak 2020-09-27

This book presents the selected peer-reviewed proceedings of the International Conference on Recent Trends and Innovations in Civil Engineering (ICRTICE 2019). The volume focuses on latest research and advances in the field of civil engineering and materials science such as design and development of new environmental materials, performance testing and verification of smart materials, performance analysis and simulation of steel structures, design and performance optimization of concrete structures, and building materials analysis. The book also covers studies in geotechnical engineering, hydraulic engineering, road and bridge engineering, building services design, engineering management, water resource engineering and renewable energy. The contents of this book will be useful for students, researchers and professionals working in civil engineering.

*Aquananotechnology* - David E. Reisner 2014-09-24

The world's fresh water supplies are dwindling rapidly—even wastewater is now considered an asset. By 2025, most of the world's population will be facing serious water stresses and shortages.

*Aquananotechnology: Global Prospects* breaks new ground with its informative and innovative introduction of the application of nanotechnology to the remediation of contaminated water for drinking and industrial use. It provides a comprehensive overview, from a global perspective, of the latest research and developments in the use of nanotechnology for water purification and desalination methods. The book also covers approaches to remediation such as high surface area nanoscale media for adsorption of toxic species, UV treatment of pathogens, and regeneration of saturated media with applications in municipal water supplies, produced water from fracking, ballast water, and more. It also discusses membranes, desalination, sensing, engineered polymers, magnetic nanomaterials, electrospun nanofibers, photocatalysis, endocrine disruptors, and Al13 clusters. It explores physics-based phenomena such as subcritical water and cavitation-induced sonoluminescence, and fog harvesting. With contributions from experts in developed and developing countries, including those with severe contamination, such as China, India, and Pakistan, the book's content spans a wide range of the subject areas that fall under the aquananotechnology banner, either squarely or tangentially. The book strongly emphasizes sorption media, with broad application to a myriad of contaminants—both geogenic and anthropogenic—keeping in mind that it is not enough for water to be potable, it must also be palatable.

**Recent Advances in Civil Engineering** - Pala Gireesh Kumar 2022-05-13

The book presents the select proceedings of the 2nd International Conference on Sustainable Construction Technologies and Advancements in Civil Engineering (ScTACE 2021). This book discusses the latest developments and contributions towards sustainable construction technologies and advances in civil engineering. Various topics covered in this book are construction technologies, geotechnical engineering, transportation and traffic engineering, structural engineering, environmental engineering, remote sensing and GIS, geo-environmental engineering, water resources engineering and earthquake engineering. This book will be useful for students, researchers and professionals working in the area of civil engineering.