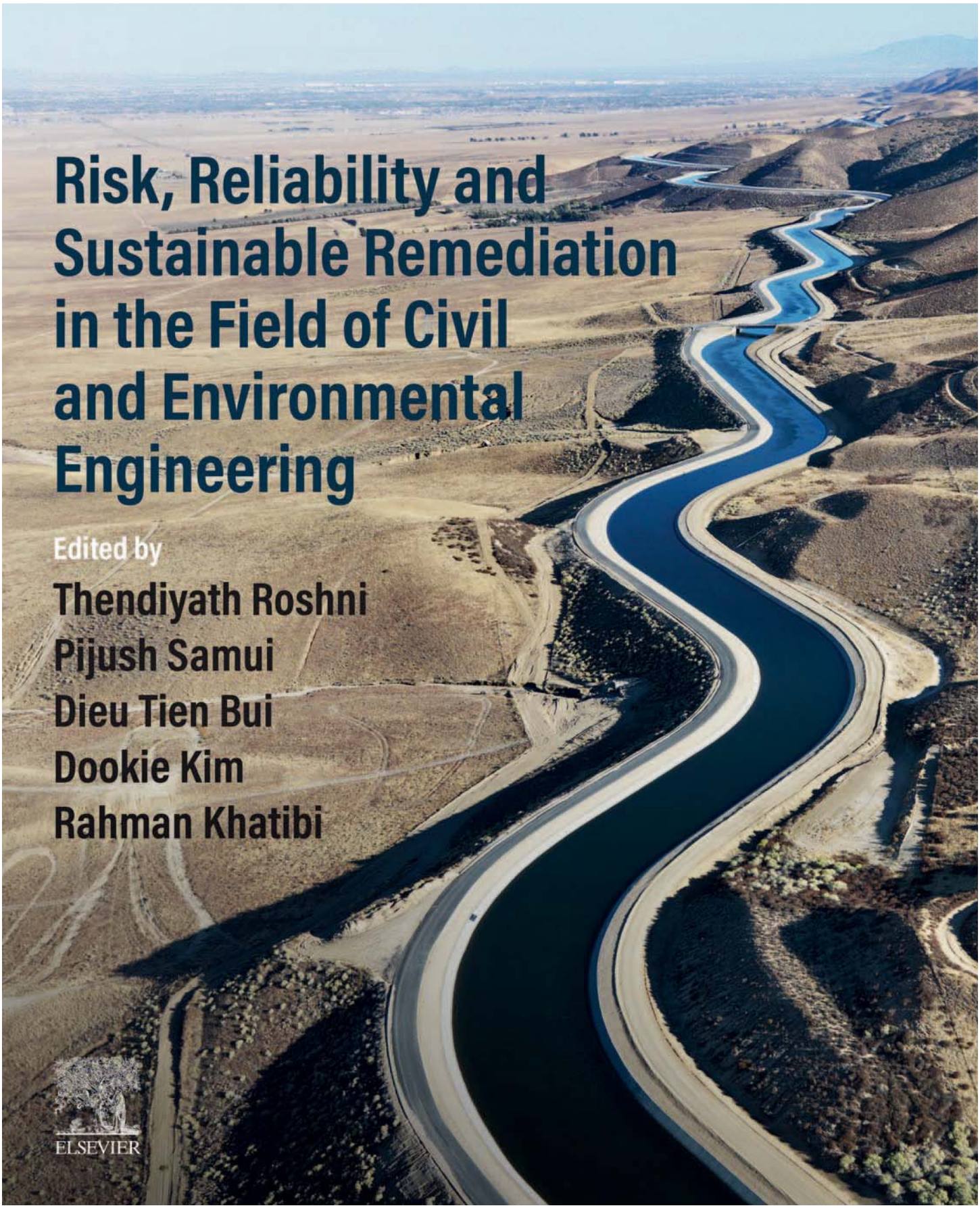
Risk, Reliability and Sustainable Remediation in the Field of Civil and Environmental Engineering
Edited by
Thendiyath Roshni
Pijush Samui
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Rahman Khatibi
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RISK, RELIABILITY AND SUSTAINABLE REMEDIATION IN THE FIELD OF CIVIL AND ENVIRONMENTAL ENGINEERING

Edited by

Thendiyath Roshni
National Institute of Technology Patna, Patna, Bihar, India

Pijush Samui
National Institute of Technology, Patna, Bihar, India

Dieu Tien Bui
Geographic Information System group, University of South-Eastern Norway, Notodden, Norway

Dookie Kim
Department of Civil and Environmental Engineering, Kongju National University, Cheonan-daero, Republic of Korea

Rahman Khatibi
GTEV-ReX Ltd, Swindon, United Kingdom

ELSEVIER

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List of contributors

Alireza Abdoallahi Department of Water Engineering, Bu-Ali Sina University, Hamedan, Iran

Zaid Hazim Al-Saffar Building and Construction Eng. Technical College of Mosul, Northern Technical University, Iraq

Selvaraj Ambika Department of Civil Engineering, Indian Institute of Technology Hyderabad, Telangana, India; Department of Climate Change, Indian Institute of Technology Hyderabad, Telangana, India

Danial Jahed Armagahni Department of Civil Engineering, Faculty of Engineering, University of Malaya, Kuala Lumpur, Selangor, Malaysia; Department of Urban Planning, Engineering Networks and Systems, Institute of Archi-tecture and Construction, South Ural State University, Chelyabinsk, Russia

Dipanjan Basu Department of Civil and Environmental Engineering, University of Waterloo, Waterloo, ON, Canada

Ramesh Murlidhar Bhatawdekar Geotropik-Centre of Tropical Geoengineering, Department of Civil Engineering, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia; Department of Mining Engineeing, Indian Institute of Technology, Kharagpur, West Bengal, India

Debarghya Chakraborty Department of Civil Engineering, Indian Institute of Technology Kharagpur, Kharagpur, West Bengal, India

Subhojit Chattaraj Department of Civil Engineering, MCET, Berhampore, West Bengal, India

Chin Siew Choo Department of Civil Engineering, College of Engineering, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

Beste Cubukcuoglu Institute of Building Materials Research, RWTH Aachen University, Aachen, Germany

Deepthi Mary Dilip BITS Pilani Dubai Campus, United Arab Emirates

Sufyan Ghani Department of Civil Engineering, National Institute of Technology Patna, Patna, Bihar, India

Maryam Gharekhani Department of Earth Sciences, Faculty of Natural Sciences, University of Tabriz, Tabriz, East Azerbaijan, Iran

Mohammad Ali Ghorbani Water Engineering Department, Faculty of Agriculture, University of Tabriz, Tabriz, Iran

Anasua GuhaRay Department of Civil Engineering, BITS-Pilani Hyderabad Campus, Telangana, India

Koushik Halder Department of Civil Engineering, University of Nottingham, Nottingham, United Kingdom

Dayang Zulaika Abang Hasbollah Geotropik-Centre of Tropical Geoengineering, Department of Civil Engineering, Universiti Teknologi Malaysia, Johor Bahru, Johor, Malaysia

Amal I. Hassan Radioisotopes Department, Nuclear Research Center, Egyptian Atomic Energy Authority, Giza, Egypt

Norhidayah Abdul Hassan Faculty of Engineering, School of Civil Engineering, University of Technology Malaysia, Skudai, Malaysia

Dato Chengong Hock Soon MQA and Training Development Committee, Sectorial Training Committee, Malaysia Quarry Association, Kuala Lumpur, Selangor, Malaysia

Samed Inyurt Department of Geomatics Engineering, Faculty of Engineering and Architecture, Tokat Gaziosmanpasa University, Tokat, Turkey

Ramadhansyah Putra Jaya Department of Civil Engineering, College of Engineering, University of Malaysia Pahang, Kuantan, Pahang, Malaysia

Effectiveness and efficiency of nano kaolin clay as bitumen modifier: part A

Ramadhansyah Putra Jaya[1], Haryati Yaacob[2], Norhidayah Abdul Hassan[2], Zaid Hazim Al-Saffar[3]

[1]Department of Civil Engineering, College of Engineering, University of Malaysia Pahang, Kuantan, Pahang, Malaysia;

[2]Faculty of Engineering, School of Civil Engineering, University of Technology Malaysia, Skudai, Malaysia;

[3]Building and Construction Eng. Technical College of Mosul, Northern Technical University, Iraq

INTRODUCTION

Increasing traffic volumes and rising cost of bitumen make it necessary to improve the engineering properties and performance of binder through bitumen modification (Liu and Wu, 2011). Various types of modifiers have been employed as bitumen binders in order to improve the properties of the bitumen mixture (Kaloush et al., 2010; Ye et al., 2009), particularly with regard to its resistance to aging, cracks due to fatigue and thermal conditions, moistureinduced damage, and permanent deformation. However, fibers and polymers are common materials used in bitumen modification (Anurag et al., 2009; Liu et al., 2009).

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One-spot collective resource on risks in systems planning and design and reliability analysis techniques in civil and environmental engineering, including practical applications and case studies

Risk, Reliability, and Sustainable Remediation in the Field of Civil and Environmental Engineering illustrates the concepts of risk, reliability analysis and its estimation, and the decisions leading to sustainable development in the field of civil and environmental engineering. The book provides key ideas on the risks in the performance failures and structural failures of all processes involved in civil and environmental systems and evaluates the reliability within its context. It also discusses the implications of measurable indicators of sustainability in important aspects of multitude of civil engineering projects. The book helps practitioners to become familiar with the tolerances in design parameters, uncertainties in environment, applications, and manufacturing fields of civil and environmental systems. It emphasizes the importance of risks involved in the design and planning stages and reliability techniques to discover and remove the potential failures to achieve a sustainable development.

About the Editors

Thendiyath Roshni is a faculty of Water Resources Engineering in the Department of Civil Engineering, National Institute of Technology, Patna, with nearly 10 years of experience in teaching and research. She has coauthored several national and international journal publications, book chapters, and two books. Her current research interests include soft computing, river hydraulics, surface water and groundwater flow modeling, and climate change.

Pijush Samui is an Associate Professor at the National Institute of Technology, Patna, India. He is an established researcher in the application of Artificial Intelligence (AI) for solving different problems in engineering. Samui has published journal articles, peer-reviewed conference papers, book chapters, and four books. He is also holding the position of Visiting Professor at Far East Federal University (Russia).

Dieu Tien Bui is a Professor in GIS, in the Department of Business and Information Technology at the University of South-Eastern Norway, Norway. He obtained an ME, at the Hanoi University of Mining and Geology, Hanoi, Vietnam, a PhD in the Department of Mathematical Sciences and Technology (IMT), Norwegian University, and was a postdoctoral researcher in the same department. His research interests include GIS, remote sensing, artificial intelligence, and machine learning. He published journal and review articles and book chapters.

Dookie Kim is a Professor in the Department of Civil and Environmental Engineering, Kongju National University, 1223-24 Cheonan-daero, 31080, Republic of Korea. Professor Kim has a broad experience in structural dynamics. He published journal articles, conference papers, book chapters, and two books.

Rahman Khatibi is a dedicated researcher, professional engineer, and Manager with over 30 years of successful track record in managing and developing strategies for water systems. He is currently engaged in scholarly research in integrating evolutionary thinking, systems science, and complexity science toward a Generalized Theory of Evolution.

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